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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/591,905	11/06/2006	Makiko Kitazoe	029567-00010	5377

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EXAMINER	
CHEN, KEATH T	

ART UNIT	PAPER NUMBER
1792	

NOTIFICATION DATE	DELIVERY MODE
07/08/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

DCIPDocket@arentfox.com
IPMatters@arentfox.com
Patent_Mail@arentfox.com

Office Action Summary	Application No.	Applicant(s)	
	10/591,905	KITAZOE ET AL.	
	Examiner	Art Unit	
	KEATH T. CHEN	1792	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 June 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) *10-18* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-9 and 19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Applicant's amendment, filed on 06/10/2009, in response to the rejection of claims 1-9 and 19 in the non-final office action mailed on 02/20/2009, by amending claims 1 and 19 and is entered and will be discussed below.

Election/Restrictions

2. Claims 10-18 remain withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention II, there being no allowable generic or linking claim.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35 U.S. Code not included in this action can be found in a prior Office action.

3. Claims 1-9 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishibashi (US 6375756, hereafter '756), in view of Bridges (US 5012868, hereafter '868) and Reale (US 5451754, hereafter '754).

'756 teaches some limitations:

Claims 1 and 19: A self-cleaning catalytic chemical vapor deposition apparatus (Fig. 1, col. 4, line 59) which forms a thin film by a catalytic action of a resistance heated (by power source #30, col. 5, lines 11-13) catalytic body (#3, col. 5, lines 11-17) within a reaction chamber capable of being evacuated to a vacuum (col. 4, line 60), and a cleaning gas (abstract, however, this is intended use), and wherein the catalytic body has a temperature of between 1700^{o} and less than 2000^{o} C (hot element heated up to

2000° C, abstract; furthermore, this is intended use, as long as the hot element is capable of being heated to between 1700° and less than 2000° C, then it meets the claim).

wherein the apparatus is capable of (the apparatus is capable of the following) removing an adhering film which has adhered to the interior of the reaction chamber while suppressing etching of the catalytic body itself on the basis of a radical species generated when the cleaning gas comes into contact with the resistance heated catalytic body and is decomposed, the bias voltage applied to the catalytic body, and a polarity of the bias voltage.

Applicant's claimed requirements "a cleaning gas", "wherein the apparatus removes an adhering film which has adhered to the interior of the reaction chamber while suppressing etching of the catalytic body itself on the basis of a radical species generated when the cleaning gas comes into contact with the resistance heated catalytic body and is decomposed, the bias voltage applied to the catalytic body, and a polarity of the bias voltage", and "wherein the catalytic body has a temperature of between 1700° and less than 2000° C" are considered intended use in the pending apparatus claims. Further, it has been held that claim language that simply specifies an intended use or field of use for the invention generally will not limit the scope of a claim (Walter, 618 F.2d at 769, 205 USPQ at 409; MPEP 2106). Additionally, in apparatus claims, intended use must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior

art. If the prior art structure is capable of performing the intended use, then it meets the claim (In re Casey, 152 USPQ 235 (CCPA 1967); In re Otto, 136 USPQ 458, 459 (CCPA 1963); MPEP2111.02).

Claim 2: The self-cleaning catalytic chemical vapor deposition apparatus according to claim 1, further comprising a radical species generator (plasma generation, col. 7, lines 45-48) which decomposes the cleaning gas into a radical species and introduces the radical species into the reaction chamber.

'756 does not teach the other limitations of

Claim 1: The apparatus comprises a power supply to apply a bias voltage to the catalytic body and a changeover switch which changes the polarity of the bias voltage to be applied.

Claim 9: The self-cleaning catalytic chemical vapor deposition apparatus according to claim 1, further comprising a monitoring device which detects the occurrence of etching of the catalytic body itself on the basis of electric resistance of the catalytic body.

Claim 19: a power supply to apply a bias voltage to the catalytic body, a changeover switch that changes the polarity of the bias voltage to be applied.

'868 is an analogous art in the field of corrosion inhibition in a heating electrode (abstract), particularly in providing maximum corrosion protection over an extended working life at minimum cost (col. 3, lines 54-59). '868 teaches by applying a DC bias

voltage to the heating circuit to inhibit corrosion (col. 4, lines 1-4) and a switch (#238, Fig. 3) to adjust positive or negative polarity (col. 8, lines 37-40) and an ability to maintain neutral potential (col. 9, lines 21-26). ‘868 further provides a current sensor (#55 in Fig. 1 or #251, Fig. 3, col. 9, lines 51-62) to control the corrosion inhibition polarity.

‘754 is an analogous art in the field of controlling charge of substrate (abstract) particularly in sputtering metal film (col. 3, lines 52-53). ‘754 teaches a changeover switch which change polarity of the bias voltage, including ground, applied to the shield (col. 4, lines 30-39) to control the charge deposited on the substrate (#14).

At the time the invention was made, it would have been obvious to a person having ordinary skill in the art to have combined ‘868 and ‘754 with ‘756. Specifically, to have applied a bias voltage, as taught by ‘868, to the hot element (#3) in the apparatus of ‘756, and furthermore to have adopted the bias voltage switch as taught in Fig. 1 of ‘754 to switch the polarity as taught by '868. Furthermore, to have adopted a DC current sensor, as taught by ‘868, to control the polarity of inhibition. This current sensor would have been responsive to the resistance of the catalytic body (hot element).

The motivation would have been to inhibit corrosion as taught in both ‘756 (col. 6, lines 19-26) and ‘868 (col. 4, lines 1-4) and to provide polarity switch capability as taught by ‘868 (col. 8, lines 37-40 and col. 9, lines 21-26).

The apparatus of the above combination would have the capability of supplying various gases and setting polarity according to the gases species of the claim limitations of claims 3-8 (all intended use).

Response to Arguments

Applicants' arguments filed 06/10/2009 have been fully considered but they are not persuasive.

4. In regarding to 35 USC 112 first paragraph rejection, Applicants' amendment overcome the rejection, seepage 7 to top of page 8.

5. In regarding to 35 USC 103(a) rejection based on Ishibashi ('756), Bridges ('868), and Reale ('754) of claims 1-9, Applicants argue that

a) "heating an element to a range of temperature further defines that element and in no way constitutes intended use", "intended use is not support in the MPEP or in any Federal Circuit decision", and "intended use … would result invalidation of any claimed temperature in every single other patent application or patent", see the bridging paragraph between pages 8 and 9.

These arguments are found not persuasive.

The examiner maintains that the range of temperature is an intended use of an apparatus. The support in MPEP2111.02 and various case law are already cited the previous action, see also MPEP2111.02, see also MPEP 2113 "MANNER OF OPERATING THE DEVICE DOES NOT DIFFERENTIATE APPARATUS CLAIM FROM THE PRIOR ART" and the case law cited therein. Applicants' assertion that "intended

use … invalidation of any claimed temperature … in every single other ... patent" is unfounded. This assertion is wrong at least for the process patents.

b) Applicants argue “Cleaning gas” is actually claimed apparatus because it is Applicants’ province of “determining what feature to be claimed", see the first complete paragraph of page 9.

This argument is found not persuasive.

The examiner maintains the cleaning gas is not part of the structure of the apparatus. To further help Applicants thinking on this line of argument, the examiner reminds that it is a common knowledge to clean the apparatus using a cleaning gas; the term cleaning gas is not defined in Applicants’ specification (a cleaning gas can be used for etching and/or deposition); a gas connection is capable to be connected to various kind of gases, including cleaning gas. The apparatus of the combined reference is well within the ordinary skill to be used with a cleaning gas. As previous stated, ‘756 clearly teaches a cleaning gas (in the abstract). Applicants has the right to “determining what feature to be claimed”, including the ones without structural limitations such as cleaning gas and temperature range in the apparatus claims.

c) Applicant argues that "up to 2000 C" in the Abstract of ‘756 does not means “below 2000 C” because “thereafter a cleaning gas … is introduced" in the abstract and Ishibashi teaches away from operating at less than 2000 C, see the bridging paragraph between pages 9 and 10.

These arguments are found not persuasive.

The examiner maintains the statement “up to 2000 C” includes “lower than 2000 C”. “thereafter a cleaning gas …” is timewise sequence of process of gases, is not a statement of temperature change.

‘756 is a process patent, cites example of certain cleaning gas (col. 4, lines 20-26) and a particularly catalyst tungsten. A person of ordinary skill in the art would have recognized that the temperature of decomposition changes as the cleaning gas and catalyst material changes in an apparatus.

d) Applicants arguments that the office action did not identify a reason why Bridges ‘868 an apparatus for corrosion inhibition in an electromagnetic heating system for heating an underground oil well should be combined with a CVD apparatus as taught in ‘756.

This argument is found not persuasive.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Bridges teaches corrosion inhibition in a heating electrode, a person of ordinary skill in the art would have recognized this electrochemistry is applicable to CVD hot catalyst.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KEATH T. CHEN whose telephone number is (571)270-1870. The examiner can normally be reached on 6:30AM-3 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Cleveland can be reached on 571-272-1418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/K. T. C./
Examiner, Art Unit 1792

/Ram N Kackar/

Primary Examiner, Art Unit 1792